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# Comparing the self-awareness and problem-solving skills training on sexual desire of newly married women: A field trial study

Saba Moodi<sup>1</sup>, Zahra Mehrbakhsh<sup>2,3</sup>, Fatemeh Amtaeh<sup>4</sup>, Sedigheh Moghasemi<sup>5</sup>

<sup>1</sup>Department of Midwifery and Counseling in Midwifery, School of Nursing and Midwifery, Birjand University of Medical Sciences, South Khorasan Province, Birjand, Iran, <sup>2</sup>Department of Biostatistics, School of Public Health, Hamadan University of Medical Sciences, Hamadan, Iran, <sup>3</sup>Department of Biostatistics and Epidemiology, School of Health, Golestan University of Medical Sciences, Gorgan, Iran, <sup>4</sup>Islamic Azad University, Gorgan Branch, Golestan, Iran, <sup>5</sup>Counseling and Reproductive Health Research Center, School of Nursing and Midwifery, Golestan University of Medical Sciences, Gorgan, Iran

## Address for correspondence:

Dr. Sedigheh Moghasemi,  
School of Nursing and Midwifery, Golestan University of Medical Sciences, Gorgan, Golestan, Iran.  
E-mail: Moghasemi.s@gmail.com,  
Moghasemi.s@goums.ac.ir

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## Abstract:

**BACKGROUND:** Sexual desire of women is one of the most important factors affecting marital and sexual satisfaction. Regarding the association of life skills level with sexual dissatisfaction and sexual desire, the present study aims to compare the effect of self-awareness and problem-solving skills training on the sexual desire of newly married women.

**MATERIALS AND METHODS:** This was an experimental field trial study conducted since October 2019 to September 2020. The participants included 105 married women with a history of up to 5 years of cohabitation assigned randomly to either of the two intervention or control groups. The data collection tools include a demographic form, Hulbert index of sexual desire (HISD), and ENRICH couple scale that were completed by the participants before (T1), immediately (T2), and one month after the intervention (T3). The first intervention group received self-awareness skills training, whereas the second one received problem-solving skills training (four sessions of 90 min) weekly. On the other hand, the control group received no training. Statistical analyses were performed using SPSS 16 software and descriptive-analytical statistical tests including one-way ANOVA, Kruskal–Wallis, Bonferroni test, tests of within-subjects effects, and analysis test with repeated measures. *P* value < 0.05 was considered significant.

**RESULTS:** The effect of time (statistic test: 51.24, *P*-value < 0.001) and the interaction effects of Time and Group on sexual desire (statistic test: 2.87, *P*-value: 0.03) were statistically significant. The mean score of sexual desire both in interventions and control groups showed statistically significant improvement. The mean score of sexual desire in the self-awareness group was 44.31 ± 9.08 (T1), 51.34 ± 10.92 (T2), and 59.48 ± 13.76 (T3) (*P* < 0.001); in the problem-solving group was 48.74 ± 10.21 (T1), 52.08 ± 10.59 (T2), and 57.40 ± 12.40 (T3) (*P* < 0.001); and in the control group was 47.74 ± 11.60 (T1), 50.08 ± 10.04 (T2), and 54.94 ± 12.15 (T3) (*P* = 0.02).

**CONCLUSION:** The present study showed the effectiveness of both self-awareness and problem-solving skills training on newly married women's sexual desire. Moreover, this study showed simply participating in a study related to sexual desire as a control group could be effective on women's sexual desire.

## Keywords:

Emotional intelligence, libido, marriage, person-centered psychotherapy, psychological, sexual dysfunctions

## Introduction

Sexual health is fundamental to the overall health and well-being of individuals, couples and families,

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and Sexual dysfunction is a sexual health-related issue.<sup>[1]</sup> The most widely reported sexual complaints among women is low sexual desire that might have unfavorable effect on women's quality of life.<sup>[2]</sup>

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Incidence of female sexual dysfunction (FSD) has been estimated to range from 25.8% to 91.0% depending on the source.<sup>[3]</sup> The prevalence of FSD in Iran is estimated somehow high, so that a cross-sectional study in Tehran reported that about 78% of reproductive age women had sexual dysfunction.<sup>[4]</sup> Also, in a systematic review on Iranian studies, the prevalence of FSD was reported at 50.75% with sexual desire disorder (50.70%) being the most prevalent.<sup>[5]</sup>

Low or diminished sexual desire could be arise from any bio-psychosocial factors<sup>[6]</sup> including chronic illnesses (biological factor), depression (psychological factor), and low education (Social factor),<sup>[5]</sup> and it is recommended that clinicians should assess any treatable or identifiable cause of sexual dysfunction in women before making a primary diagnosis of sexual dysfunction.<sup>[3]</sup> For example, it was shown that compatibility and resolving sexual problems conflicts is one of important factors affecting women's sexual function.<sup>[7]</sup> So, having an effective sexual<sup>[8]</sup> and nonsexual communication with partner<sup>[9]</sup> can increase sexual desire and other aspect of sexual function and prevent primary diagnosis of sexual dysfunction.

Communication skills is one aspects of life skills and could promote via education.<sup>[10]</sup> According to UNICEF definition, Life skills are a set of universally applicable and contextual of abilities, attitudes, and socio-emotional competencies that enable individuals to learn, make informed decisions and exercise rights to lead a healthy and productive life and subsequently become agents of change.<sup>[11]</sup>

Among life skills, self-awareness helps people know their sexual and nonsexual needs and learn how to express their feelings correctly, thereby expressing their desires without fear or anxiety. Some studies have shown that, there is a direct association between increasing women's self-awareness and improving their sexual satisfaction.<sup>[12]</sup> On the other hands, problem-solving skills can help people accurately detect the problems in their life and find appropriate solutions for solving them.<sup>[13]</sup> It was reported that counselling with effective problem-solving skills improves sexual desire,<sup>[13]</sup> sexual satisfaction,<sup>[14]</sup> and marital satisfaction.<sup>[15]</sup>

Although various studies have shown the effect of training of a set of life skills including problem-solving skills and self-awareness skills on marital and or sexual satisfaction, but to the best of authors' knowledge, it is not yet known which skills have the most significant effect on sexual desire.

Considering the high prevalence of sexual desire disorder in women and the negative effects of sexual dysfunction on individual health and families' integrity, identifying simple and efficient interventions in promoting sexual

function can improve the quality of life of couples in both sexual and nonsexual dimensions. Moreover, as recently individuals have more awareness about sexual matters such as sexual desire, greater numbers of women are anticipated to seek treatment for low level of sexual desire from a Health Care Provider (HCP).<sup>[2]</sup> Hence, it is necessary to introduce simple and effective interventions in the field to be applicable as a practicable approach to improving sexual desire by HCP. Therefore, this study aimed to compare the effect of self-awareness and problem-solving skills training on sexual desire of newly married women.

## Materials and Methods

### Study design and setting

This experimental study was a randomized controlled trial with two intervention groups and one control group.

### Study participants and sampling

The study was performed on married women with a minimum of 6 months to maximum 5 years of marriage duration under the coverage of Gorgan comprehensive health centers since 2019 October to 2020 September. According to Ahmadi *et al.*,<sup>[16]</sup> the required number of samples was determined by 25 people at the confidence level of 95% and with a test power of 80% using the following formula in each group:

$$n = \frac{(z_{1-\frac{\alpha}{2}} + z_{1-\beta})^2 (SD_1^2 + SD_2^2)}{(\mu_1 - \mu_2)^2} = \frac{(1.96 + .84)^2 (22.14^2 + 26.44^2)}{(121.6 - 140.73)^2} = 25$$

Since the number of groups is more than two, the final sample size in each group was 35 people using the following formula:

$$n^* = n\sqrt{g-1} = 25\sqrt{3-1} = 35$$

### Inclusion criteria

Having high school education and higher, permanent marriage and living with spouse, the first marriage of each couple, being in the reproductive age (18–45 years old) and obtaining a score below 41 of the Enrich Marital Satisfaction sub- scale. The last criteria was considered because this study was conducted in parallel with another study that aimed the investigation of the effectiveness of self-awareness and problem-solving skills training on marital satisfaction of married women.<sup>[15]</sup>

### Exclusion criteria

Having the history of reproductive organs surgery or malignancies, chronic medical conditions, and diagnosed

psychological disorders, studying psychology or counseling, attending psychotherapy sessions, history of infertility, addiction of each couple, and a history of unfortunate events in the past six months.

Since there were three groups in the study, eligible and volunteer participants were allocated to one of the three groups of intervention 1 (self-awareness training), intervention 2 (problem-solving training), or control based on permuted triplex block randomization. Four sessions of 90 minutes per week of problem solving and self awareness skills training were held for the experimental group 1 and 2, respectively, and no intervention was performed for the control group. Classes were held as a group discussion with doing homework.

### Data collection tool and technique

Data were collected using demographic characteristics form and Persian version of Hurlbert sexual desire scale.

The sexual desire scale, designed by Apt and Hurlbert in 1992. This questionnaire has 25 items. The items are answered using the 5-point Likert scale, ranging from always (0), most of the time (1), sometimes (2), rarely (3), and never (4). The minimum and maximum score of total-scale is 0–100. Higher score indicates higher sexual desire. Test re-test reliability was 0.86.<sup>[17]</sup> The Persian version of the Hurlbert scale, has been standardized in Iran by Yousefi *et al.*, in 2014. 325 married men and women in Isfahan city in 2019 were selected as a sample and completed the Hurlbert Index of Sexual Desire, Sexual Self- Disclosure Scale, Arizona Sexual Experience Scale, and Sexual Self- Disclosure Scale questionnaire. There was a significant positive correlation between the total scores of the Hurlbert Index of Sexual Desire questionnaire and the Sexual Self- Disclosure Scale. The number of items is similar to the original scale. The reliability of the scale through Cronbach's alpha coefficient is between 0.92.<sup>[18]</sup>

The study was started as in-person sessions, but due to the corona pandemic and quarantine onset, it was continued online. The electronic questionnaire was prepared in the Porsline system (<https://porsline.ir>) and training sessions were held on the Skyroom platform. Up to one month after the end of the classes, the same educational materials were sent to the intervention 1 and 2 groups to maintain the virtual group, and the participants' questions were answered. The participants completed the questionnaires before, immediately and one month after the intervention.

### Statistical analysis

Data were analyzed using One-way ANOVA, Kruskal-Wallis, Repeated measures and Bonferroni test, using SPSS 16 (IBM, SPSS Inc, Chicago, Illinois, USA).  $P$  value  $<0.05$  was considered significant.

### Ethical consideration

The present study was registered in the Ethics Committee of Golestan University of Medical Sciences with Ethics Code (IR.GOUMS.REC.1398.187). All participants signed informed consent form at the same time they fill the questionnaires. Information obtained from the participants was kept confidential and the identification code was used in the questionnaires instead of the name and surname.

### Results

208 eligible women were randomly allocated in to three groups. In this way 65 women in Problem solving group, 73 women in Self-awareness group and 70 in control group. Some participants in each groups got Lost to follow-up or discontinued study. Finally, data of 35 completed questionnaires were analyzed that is equal to the estimated number of samples in each group. See Figure 1.

According to the results, Means and Standard Deviations (SD) of the age in the self awareness, problem-solving and control groups was  $27.97 \pm 4.24$ ,  $28.43 \pm 2.93$ , and  $29.74 \pm 4.11$ , respectively. The result of the One-way ANOVA did not show a significant difference in the mean age of women in the three groups ( $P = 0.13$ ).

The difference of the mean score of sexual desire in the three groups before the intervention (T1), immediately (T2) and one month after the intervention (T3) was not significant ( $P > 0.05$ ) [Table 1].

Then Mauchly's test was evaluated ( $P$ - value  $< 0.001$ ) and using Greenhouse Geisser, the result of the tests of within-subjects effects showed that the effect of time was statistically significant ( $P < 0.001$ ), and the effect of group was not significant ( $P = 0.72$ ). Moreover, the interaction effects of Time and Group was statistically significant ( $P = 0.03$ ). See Table 2.

Within groups' comparison showed that, the mean score of sexual desire was significantly different in the three groups at T1, T2, and T3 ( $P < 0.05$ ). Bonferroni test showed that the mean score of sexual desire in the self-awareness group was different at three times, in the problem-solving and control groups at two time intervals [before and one month later (T1, T3), immediately and one month later (T2, T3)].

In other words, immediately after the intervention compared to baseline of the study, there was a significant increase in sexual desire in the self-awareness group, which is not seen in the two groups of problem solving and control. Over time, a significant difference in sexual desire was occurred in the other two groups, so that there

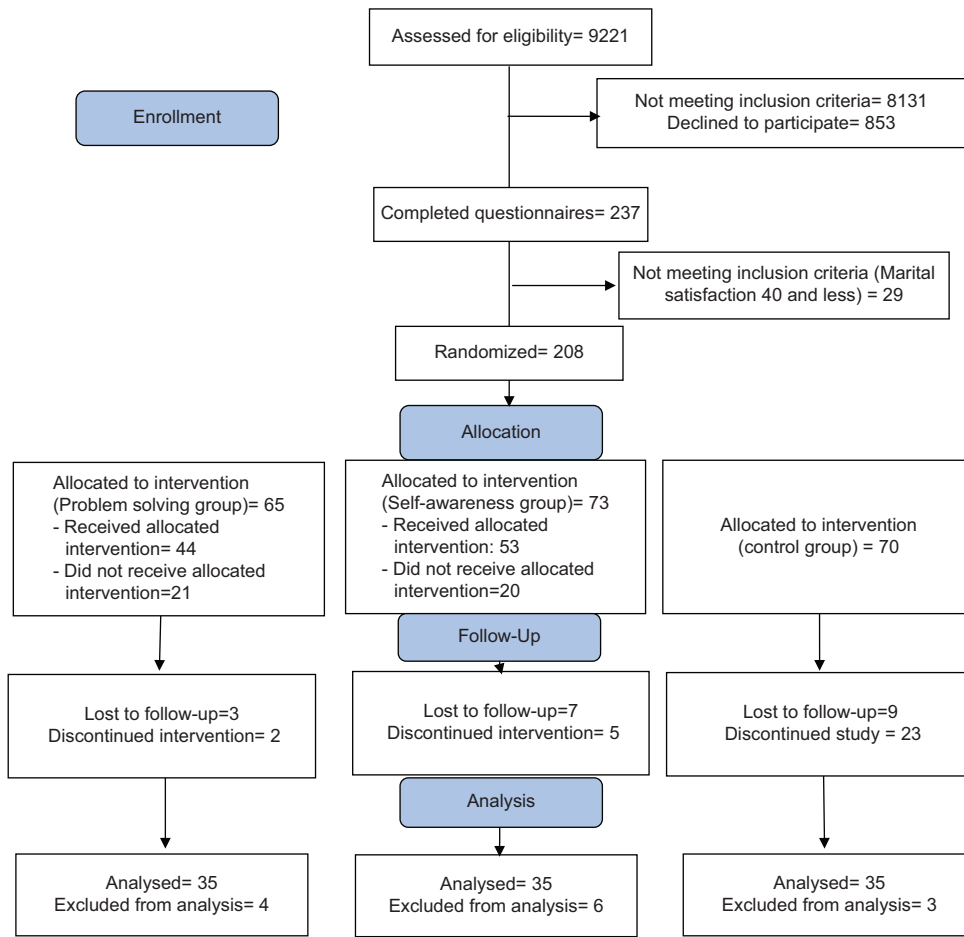


Figure 1: CONSORT diagram of the participants of the study

Table 1: Comparison of the mean of the sexual desire score in three times in three groups

Group Sexual desire	Mean±SD			Test static	P
	Self-awareness group	Problem-solving group	Control group		
Before (T1)	44.31±9.08	48.74±10.21	47.74±11.60	5.71	0.05*
After (T2)	51.34±10.92	52.08±10.59	50.08±10.04	0.41	0.81*
After one month (T3)	59.48±13.76	57.40±12.40	54.94±12.15	1.10	0.33**

\*Kruskal-Wallis. \*\*One-way ANOVA

was a significant difference in the level of sexual desire in all three groups of self-awareness, problem solving and control at 1 month after the intervention compared to the baseline and immediately after the intervention. See Table 3 and Figure 2.

### Discussion

This study aimed to compare the effect of self-awareness and problem-solving skills training on the sexual desire of newly married women. The results of the inter-group comparison showed that the mean scores of sexual desire in the three groups before, immediately, and one month after the intervention were not statistically significant. But, the results of the intra-group comparison showed the mean score of sexual desire in the three groups improved over time.

The mean score of total sexual desire in the problem-solving group was higher one month after the intervention compared to the two times before and immediately after the intervention. Similarly, Boojarzadeh *et al.*<sup>[19]</sup> (2020) showed that counseling with a solution-oriented approach improved libido in married women with hypoactive sexual desire. In another study, solution-oriented counseling improved sexual satisfaction in newly married women, too.<sup>[20]</sup> It seems that by learning problem-solving skills, people can be able to prioritize and solve problems using a constructive approach,<sup>[15]</sup> then improve their interpersonal relationships, and enhance their satisfaction.<sup>[9]</sup>

The mean score of sexual desire in the self-awareness group increased immediately and one month after the intervention. Sayari *et al.*<sup>[21]</sup> (2020) studied the role of sexual

enrichment based on problem-solving skills, empathy, effective communication, and sexual counseling on the quality of life of multiple sclerosis (MS) women through six training sessions. According to their results, sexual and social performance, sexual satisfaction, and quality of life had a significant difference immediately and three months after the intervention. A cross-sectional study of 478 women referred to health centers in Shahroud showed that life skills training, including self-awareness, plays a significant role in improving sexual disorders and increasing marital satisfaction.<sup>[13]</sup> Similarly, investigation of the effect of individual self-awareness counseling on sexual satisfaction of women at reproductive age showed a significant increase in sexual satisfaction.<sup>[22]</sup> It is concluded that self-awareness increases sexual satisfaction by affecting self-esteem and positive self-concept. In fact, self-awareness skills help people identify sexual and non-sexual needs, and people learn how to express their needs properly. On the other hand, it corrects women's sexual stereotypes and changes their attitude toward sexual issues.<sup>[12,13]</sup>

The mean score of sexual desire in the control group also increased in the second follow-up (T3). These results are relatively consistent with those of other studies that have reported an improvement in libido after using placebos or supplements. In a study conducted by Palaniappan *et al.*,<sup>[23]</sup> women in the placebo group were given a daily supplement-like placebo for six weeks and women in the intervention group received a self-help book on sexual desire. The Female Sexual Function Index (FSFI) and the Hulbert index of sexual desire (HISD) were completed by participants. The results showed a significant improvement in libido in both groups, immediately after the intervention, based on the HISD questionnaire. However, this effect disappeared in the placebo group 6 weeks later and remained in the book group. Results obtained using the FSFI were slightly different so that in both groups, the increase was similar at post-test, but in the follow-up, the placebo effects

partially declined, and the effects remained in the book group. Since a self-help book is a kind of skill-based approach, the results of this study are in line with those of the present study.

In another study comparing ArginMax and placebo, overall sexual life satisfaction improved in both groups. Interestingly, a 43% increase in libido following placebo consumption occurred in the FSFI's libido subscale.<sup>[24]</sup> These studies show the significant role of a placebo.<sup>[23]</sup> Therefore, it is not unreasonable to expect that completing the sexual desire questionnaire has caused more attention to this issue among women in the control group. Besides, since the participants had high school and higher education, they might seek self-help sources after completing the questionnaire.<sup>[25]</sup> The aggregate effects of these two factors have been positive on their sexual desire. However, as Palaniappan<sup>[23]</sup> claimed, the long-term effects of skill-based interventions are likely to be greater than the control group, although it requires applying long-term follow-ups.

In the present study, sexual desire increased in all three groups. In contrast, Rezaei *et al.*<sup>[26]</sup> in their study reported that sexual health education program including anatomy and physiology of the reproductive systems, sexual activity and its techniques, the role of exercise and nutrition in sexual health, incorrect beliefs on sexual intercourse,

**Table 2: The effect of time, the effect of group and the interaction effects of time and group for total sexual desire score at three times in three groups**

Test	Test static	P
The effect of time	51.24	<0.001*
The effect of group	0.32	0.72
The effects of Time x Group	2.87	0.03*

\*Greenhouse-Geisser

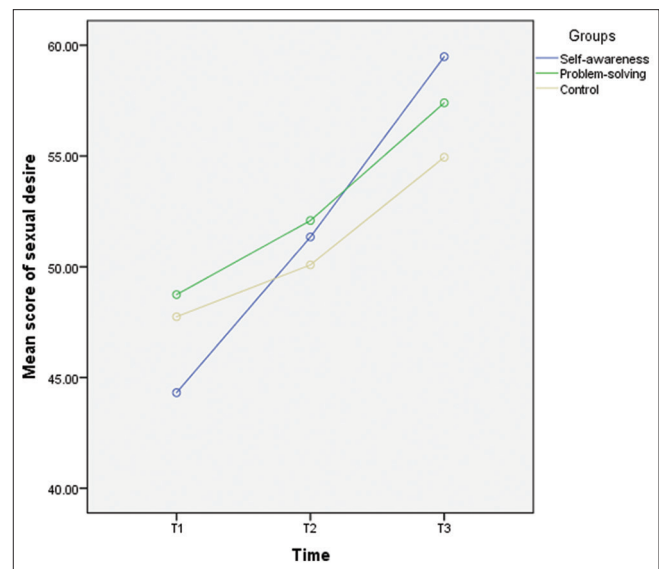


Figure 2: Trends in sexual desire scores over time in three groups

**Table 3: Comparison of the mean of the sexual desire score in three times in three groups**

Variable	Group	Mean			P*	P**		
		T1	T2	T3		T1, T2	T1, T3	T2, T3
Sexual desire	Self-awareness	44.31	51.34	59.48	<0.001	<0.001	<0.001	<0.001
	Problem-solving	48.74	52.08	57.40	<0.001	0.12	0.002	0.006
	Control	47.74	50.08	54.94	0.02	0.48	0.01	0.001

T1: Before the intervention. T2: Immediately after the intervention. T3: One month after the intervention. \*Analysis test with repeated measures. \*\*Bonferroni test

and principles of communication with spouse, improved sexual desire and arousal significantly in reproductive aged women who were in the intervention group but there was no significant change in the control group.

Considering the concurrence of this study with the onset of the corona pandemic, it should be considered that this unpredictable situation may have influenced the study results to some extent. Following the corona pandemic, significant changes occurred in individuals' sexual life and social relationships who were not prepared to adapt to it. In some people, increased stress due to the corona pandemic reduced sexual desire,<sup>[27,28]</sup> while some others showed the desire for intimacy and sexual intercourse. In this respect, with the restrictions imposed and quarantine at home, there was an opportunity for couples to spend more time, discover each other's sexual needs, and have a greater desire to have a sexual relationship.<sup>[29,30]</sup> Panzeri *et al.*,<sup>[28]</sup> studying 33 men and 91 women, reported an increase in sexual desire in 12.1% of men and 18.7% of women. Also, Weiran Li *et al.*, studying 270 men and 180 women, showed that 18% of men and 8% of women experienced an increase in sexual desire in the COVID19 pandemic.<sup>[27,31]</sup>

### Limitation and recommendation

One strength of this study was comparison of the results not only in two intervention groups but also in a control group. The limitations of this study are we did not include women who suffer from low sexual desire, however, the mean of sexual desire (HISD) score in all groups was less than median (50% total achievable score). So, it is recommended to conduct another study on women with diagnosed HSDD or complains of low sexual desire. Another limitation of this study is its short-time follow up. As some studies suggested that the effect of placebo/control on the sexuality in comparison with psychological interventions might be transient and unstable,<sup>[23]</sup> conducting a study with longer follow up is recommended.

### Conclusion

The present study showed the effectiveness of both self-awareness and problem-solving skills training on newly married women's sexual desire. Moreover, this study showed simply participating in a study related to sexual desire as a control group could be effective on women's sexual desire. So, self-awareness and problem-solving skills training could be considered as a general education in order to improve sexual desire in the communities such as Iran which freely access to sexual health information and services are limited.

### Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) have

given their consent for their answers to the questionnaires to be reported in the study. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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### Conflicts of interest

There are no conflicts of interest.

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